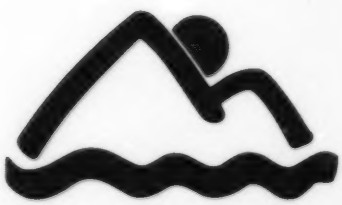
BC Environment

Beverage Container Recovery System

Private Sector Ownership Structure



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Recommended Ownership Structure for Container Corporation

Municipal Waste Branch
Environmental Protection Division
B.C. Environment
May 1991

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I

Introduction

A. Background to the study

The British Columbia Ministry of Environment proposes to introduce legislation giving beverage producers or distributors cradle to grave responsibility for beverage containers. This would oblige them to remove their containers from the municipal solid waste stream. In 1990 the Ministry received a report (the Shaffer Report) entitled **An Evaluation of Alternative Container Recovery Programs for British Columbia.** The report compared the relative merits and effectiveness of deposit/refund and blue box systems, and recommended that an expanded deposit/refund system be implemented. The report's final recommendation was that industry and other stakeholders be consulted to develop an efficient and fair implementation plan, and to monitor its effects.

The Ministry envisages a "universal" system, recovering regulated beverage containers, to be operated by an organization with the preliminary title of "Container Corporation." Early in 1991 Peat Marwick Stevenson & Kellogg was given the assignment to evaluate alternatives and develop a recommended structure for the ownership of Container Corporation. The corporation, through its own facilities, franchised depots, and consolidation centres would sort refillables for return to beverage producers, prepare recyclable materials for reprocessing, and ensure that the Ministry's container management requirements for non-recyclable materials from regulated containers are met.

The assignment to study ownership alternatives is the first of two projects. The second, to be carried out on behalf of Container Corporation. Five potential major stakeholders in Container Corporation are expected to sponsor this project. It will design the physical recovery system, the operating and financial controls, and estimate capital and operating costs. The two phases are interrelated to the extent that some beverage producers need to study the financial implications of a universal system before committing themselves to supporting one ownership option or another.

It must be emphasized that our task is not to re-examine the relative merits of a deposit/refund versus blue box system. Our terms of reference require us to recommend how Container Corporation should be owned and controlled, and to discuss the role of profit in the organization. To do this, we prepared a discussion document describing a proposed system of handling containers, deposits and recovery fees. Associated with this we identified alternative ownership, control and profit options. We discussed the

document with stakeholders and representatives of stakeholder groups. Appendix A contains a list of persons interviewed. We refined the discussion document twice on the basis of a consensus developing among stakeholders.

This report is based on the conversations dealing with all the discussion documents. The report contains sections dealing with:

- A description of the proposed physical recovery system.
- Possible capital investment requirements.
- Ownership and control options.
- Practices in other jurisdictions.
- The recommended ownership and control structure.

B. We established some preliminary criteria for the recovery system

In our terms of reference we identified some preliminary criteria which we would use in defining the physical, financial, ownership and control structures of the overall beverage container recovery system. We kept these criteria in mind in developing the descriptions of the physical system, possible financial requirements, ownership, control and profit systems. Working from the general to the specific, the criteria are to:

- Recognize the Ministry's policy mandate to promote and support the preferential 3R hierarchy of Reduce, Reuse, Recycle, with respect to container management.
- Minimize government involvement in the operations of Container Corporation.
- Vest lifecycle responsibility for beverage containers and their associated packaging with the producers or distributors, including true costs, which will have the effect of promoting environmentally-sound designs and container types.
- Maximize the recovery rate of beverage containers and thereby maximize the diversion of container waste from the landfill and litter streams.
- Maximize efficiency and effectiveness of the recovery system to keep shelf prices down.
- Ensure an efficient and quick return of refillables to producers.

- Ensure an equitable return of all container formats, reflecting true lifecycle costs.
- Ensure internalized cost segregation by container type so that efficiency is rewarded.
- Negotiate and develop long-term markets for recyclable container materials recovered by the system.
- Maximize revenue from recycled commodities.
- Provide affirmative action employment opportunities for the handicapped.

II

Highlights

A. We outlined a recovery system to stakeholders

1. The physical system

Stakeholders needed to understand how the recovery system might work, before commenting on ownership and control.

The system envisages beverage producers and distributors receiving deposits for full containers supplied to hotels, restaurants and institutions, and to retailers. Some time after this sale, beverage producers and distributors remit the deposit and recovery fees to Container Corporation. Recovery fees incorporate:

-depot handling fees
-sorting fees
-transportation costs
-material processing costs
-Container Corporation fixed costs
-material scrap revenues
-unredeemed deposits to the extent permitted by the Ministry of Environment (to offset recovery costs of each container type)

Consumers return empty containers, in exchange for the deposit, to container depots, consolidation centres, or to charity drives and blue box systems. In the network envisaged by the Ministry of Environment, retailers may opt out of the recovery network.

Hotels, restaurants and institutions return empty containers, in exchange for deposit, to depots or to consolidation centres.

The depots forward empties to consolidation centres in exchange for the deposit which they have already refunded, and a handling fee. Consolidation centres sort containers, return refillables to producers and may pass containers to a Container Corporation materials recovery facility, in exchange for the deposit and the handling fee. If Container Corporation owns the consolidation centres, recyclable materials can be channelled directly from the centres to material recyclers. If

Container Corporation feels the need to verify the count of containers (for the protection of members) it may process recyclable material at a materials recovery facility, before disposing of it to recyclers.

Containers will be grouped and reported by categories and not by individual brands. The categories will reflect the cost structure of recovering and disposing of the container, and will be based on material type, container size, colour (of glass), and whether refillable or non-refillable.

2. Role of the provincial government

The provincial government would not be involved in the operations of the system. The Ministry of Environment has a responsibility of ensuring that the weight of beverage containers not recovered is significantly reduced. At the same time, the government needs to ensure that consumers throughout the province are given reasonably opportunity to return containers and that all beverage producers, small and large, are treated equitably. To achieve this the Ministry of Environment will set minimum deposit levels, and will negotiate target recovery rates with the industry. Government must enact legislation to prohibit the sale of any specified beverage without a container deposit. The government will require Container Corporation to account accurately for its performance, and will authorize the use of unredeemed deposits on non-refillables to reduce system costs, according to the level of recovery achieved. Unredeemed deposits on refillables are compensation for the costs of replacing the containers. As such they would accrue to beverage producers.

3. Functions of Container Corporation

Container Corporation will establish recovery fees and will negotiate with beverage producers, distributors, franchised or licensed depots and privately-owned consolidation centres to implement an efficient container recovery system. The Corporation may own some consolidation centres and depots (to monitor actual cost experienced). The Corporation has a responsibility to producers and/or distributors to ensure that reports are accurate.

The beverage producers/distributors have total life cycle responsibility for their containers. They must therefore "remove" their containers from the market place. Container Corporation will act as their agent in performing a number of the tasks required to achieve this objective such as collection, transportation, sorting, benefication and disposal. The recovery fees charged by Container Corporation will be set to reflect the separate cost of each of these tasks for functions for each container type.

The question of the ability of individual beverage producers/distributors to "opt-out" of Container Corporation and independently assume the responsibility of recovering its own containers from the market place has been considered. We recommend that for overall efficiency and simplicity, all beverage

producers/distributors be members of Container Corporation and therefore part of an overall self-regulation program to meet recovery guidelines negotiated with the Ministry of Environment. We also recommend that Container Corporation allow beverage producers/distributors to perform individual tasks/functions in the recovery process. This "opting-out" at the individual task level would be recognized by a corresponding reduction in recovery fees charged by Container Corporation. This would allow producers/distributors to maximize their own efficiencies by for example, collecting and/or transporting empty containers It would also allow, for example, green glass users to make their own disposal arrangements. In these cases, Container Corporation retains the responsibility of verifying achievement of the targets negotiated with government. Container Corporation may therefore need to charge members for this cost of verification.

Finally, Container Corporation will establish industry-wide initiatives to promote the recovery of beverage containers and will take specific action to improve the recovery of container types not achieving recovery levels negotiated by the industry with the Ministry of Environment.

4. Some stakeholders had concerns about the system outlined

The concerns expressed by some stakeholders about the system outlined fell into three categories:

- ► General Concerns:

  - Container Corporation ownership of some consolidation centres may put out of business some existing privately-owned centres that have handled beer containers for many years. Container Corporation will be responsible for establishing operating criteria for these depots. Overall efficiency of a larger system also needs to be considered. We also expect, however, that Container Corporation will license existing depots that can meet these operating criteria, and can expand to meet the needs of a larger system.

  - Brewers are concerned that not being able to return containers to retailers will be inconvenient for consumers and may reduce sales. Soft drink producers do not share this concern.

  - Other beverage producers/distributors are concerned that milk and juice producers seek to maintain their exemption from deposit legislation.

  - "Franchising" should not inflate the value and costs of a depot.

- ► Brewers had several concerns:

  - Costs will increase.

- The return system will slow down and more containers will be required.
- Returns will be more erratic than under the present system.
- Paying recovery fees in advance will increase working capital requirements.
- Monitoring of a corporation owned by many groups will increase management time required.
- Unredeemed deposits should continue to be allocated 100% to reducing recovery costs of beer containers (as at present).

The above concerns of the brewers were so strong that they reserved their comments on the ownership structure (and on their willingness to participate voluntarily). The validity or otherwise of the above concerns can only be answered at the end of Phase II.

► Distillers and wineries had three concerns:

- Recovery fees should not have a disproportionate impact on the price of their product. Although they accept the cost of recovery, they do not wish such costs to be subject to the normal mark-ups of the B.C. Liquor Distribution Branch.
- They want consistent deposit legislation between the various jurisdictions in Canada.
- Existing arrangements between domestic beverage producers and green glass manufacturers for the disposal of green glass might be jeopardized.

B. We outlined possible capital investment requirements

Stakeholders needed to understand the possible financial implications of ownership before they could comment on the alternatives.

Capital costs are unlikely to exceed $12 million. We calculated some rough order-of-magnitude costs including a materials recovery facility, equipment rented at consolidation centres, and a one-time cost of uncharged deposits (deposits to be refunded without being collected). The estimate is a maximum and will be reduced if a materials recovery facility is rented, or not required at all. As well, soft drink producers and the Liquor Distribution Branch feel that they can minimize the impact of uncharged deposits by marking containers on which deposits will be charged.

The float and first year unredeemed deposits could finance capital costs. Assuming deposits of 10¢ for containers under one litre (currently beer is 10¢ and soft drink is 5¢) and 25¢ for containers one litre and above (currently soft drink containers are 30¢), and average recovery fees of 3¢ and 4¢ respectively, the total value of deposits and recovery fees flowing through the system will be $107 million per year. The size of the "float" will depend on how long it takes a container to be returned for refilling or recycling from the time it was sold by the producer or distributor. It also depends on how long after the initial sale the producer or distributor must remit deposits and handling fees to Container Corporation. Breweries estimate their present float at six weeks, in which case we have calculated the value of the system float would be $12.3 million. This assumes payment recovery fees by producers/distributors coincident with their sale of product. As well, on a very conservative basis, unredeemed deposits would amount to $7.8 million per year. If unredeemed deposits are not taken into revenue until a year has passed, this money would also be available to finance the facility. In total, as much as $20 million could be available from the float and unredeemed deposits. Initial funding, until the float has accumulated, could be obtained from bank loans.

The impact of this analysis indicates that even if the lag assumptions are overly generous, there still is not significant need for stakeholders to provide large amounts of seed capital for the establishment of Container Corporation.

C. We outlined ownership and control options to stakeholders

Ownership, control and the role of profit are three independent concepts.

1. Ownership alternatives

We identified, for discussion, six alternatives:

- A corporation owned equally by Labatts, Molsons, Coca Cola, Pepsi and Liquor Distribution Branch.
- A corporation owned by all producers and distributors in proportion to the use of service, measured by recovery fees paid.
- A combination of the above with the five major stakeholders owning non-voting, participating shares and all producers and distributors owning non-participating voting shares in proportion to their use of the system.
- A cooperative consisting of all producers and distributors with ownership proportionate to fees paid to the corporation over a number of years.
- A private or public corporation owned by non-stakeholders.

- A partnership between a general partner and limited partners consisting of producers and distributors.

2. Control alternatives

Control implies the ability to elect directors for the corporation or cooperative. We outlined five concepts for stakeholders:

- Directors are elected by shareholders/members in proportion to their equity.
- Directors are elected by shareholders/members each of whom have an equal vote.
- Directors are elected by members with votes proportionate to fees paid over a number of years.
- Directors are appointed by the Minister of Environment.
- A combination of the above.

3. The role of profits

We outlined four profit models for stakeholders:

- No profits are earned, the goal of Container Corporation being to break even on the costs and revenues of each container type.
- Profits are earned at a level set by directors, and are distributed to shareholders in proportion to their equity.
- Profits are earned at levels set by directors. The profits by container type are treated as a rebate of handling fees, or are carried forward as a reduction of future operating costs.
- Profits are earned at levels set by directors and are treated as patronage dividends, by container type. A specified percentage of the dividend would be retained by the corporation for a specified number of years, to provide working capital and to identify members' relative equity.

D. We reviewed deposit systems in other jurisdictions

We reviewed deposit systems in 13 other jurisdictions, five of which were described in the Shaffer Report, and eight of which we contacted directly.

Beverage container recovery systems vary widely. The only consistency was that all jurisdictions studied included beer and soft drinks. Milk and juice are usually (though not always) excluded. Most systems include glass, aluminum and plastic containers.

Retailers normally form part of the return network, but a majority of systems also incorporate redemption centres which are usually privately owned and operated.

Deposits are sometimes legislated by the state and sometimes not. Actual deposits are sometimes the same as legislated deposits, and sometimes higher. No consistency exists.

In a majority of cases fees paid to redemption depots are negotiated by the producers and distributors. In a few cases fees are legislated by the state. Depot handling fees are, of course, only a portion of the total costs of recovering containers.

Return rates vary widely, depending largely on the material. Return rates for refillable glass are the highest, followed by aluminum cans. Non-refillable glass and plastic are generally lower, although significant exceptions (eg. B.C.) do exist.

Unredeemed deposits generally accrue to producers as does scrap revenue. However, scrap revenue is sometimes taken by redemption centres to offset their operating costs. A trend appears to be developing in some jurisdictions in which unredeemed deposits on non-refillable containers are being retained by government. Some court challenges have resulted in the United States. We are told others are planned in Canada.

In all jurisdictions except in California the producers or distributors are given the responsibility of organizing the system. Government restricts its activities to monitoring performance, legislating deposits and handling fees, and identifying beverages and container types covered by legislation (not all jurisdictions legislate in all areas).

E. The recommended ownership, control and profit structure

Stakeholders were consistent in their attitude that Container Corporation should be owned and operated by and for the benefit of beverage producers or distributors

The system should be operated to minimize costs rather than to earn profits. The involvement of outsiders in the system would establish a conflict of interest between members who wish to reduce costs and the outsider who would wish to maximize profits.

The proposed structure is simple:

- Container Corporation shall be owned by all regulated beverage producers and distributors, with interests partly proportionate to fees paid, and partially proportionate to the number of members.

- Container Corporation should be controlled by a Board consisting of:

- Five directors elected on the basis of votes weighted by fees paid over the last three complete fiscal years.
- Five directors elected on the basis on one member, one vote.
- Two directors appointed by the Minister of Environment to represent the public interest.
- The Chief Executive Officer of Container Corporation.

► Recovery fees will be set to achieve:

- The lowest possible fees charged to producers and distributors.
- An adequate level of working capital financing for the Corporation.
- A minimum of a break even position for the Corporation.

III

We Outlined A Physical Recovery System To Stakeholders

Before stakeholders could discuss how they felt Container Corporation should be owned and controlled, they needed to understand how the system might work.

A. The physical and financial systems can be independent of ownership options

1. The physical system

Exhibit III-1 illustrates the proposed flow of containers, deposits and recovery fees, which we discussed with stakeholders. The boxes represent the different groups participating in the system and the lines represent the flow of full and empty containers, deposits and handling fees. Recovery fees include:

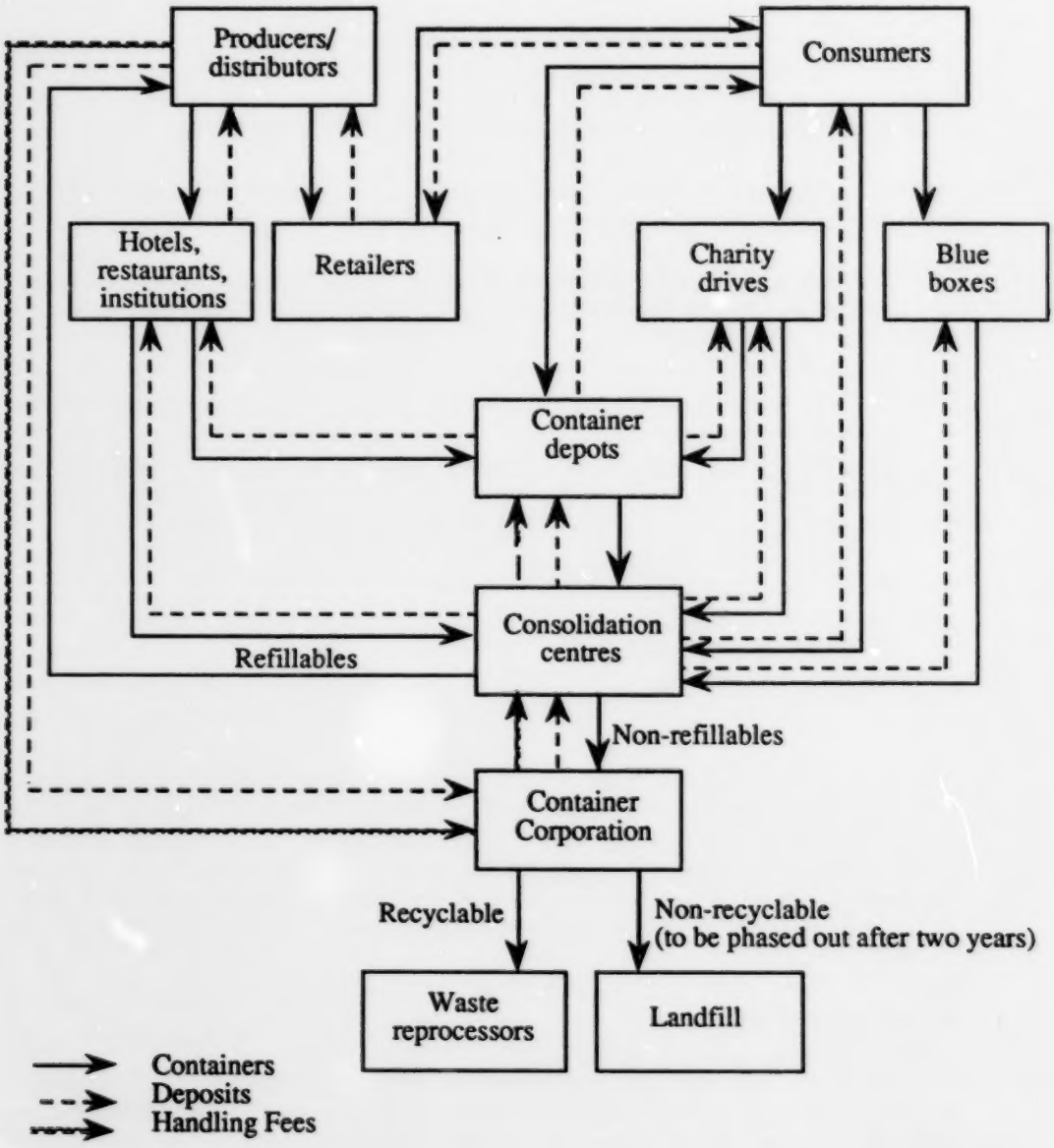
-depot handling fees
-sorting fees
-transportation costs
-material processing costs
-Container Corporation fixed costs
-material scrap revenues
-unredeemed deposits to the extent permitted by the Ministry of Environment

The process starts with the producers and distributors supplying beverages to hotels, restaurants and institutions, and to retailers. In return for the containers provided, the producers/distributors receive the legislated deposits. Sometime after the sale the producers/distributors forward the deposits and handling fees for the future recovery of containers, to Container Corporation.

Retailers sell beverages to consumers and receive deposits in return. In this preliminary proposed system we expect that most retailers will take the opportunity of removing themselves from the return stream. However, for marketing purposes some retailers may chose to offer full or discounted deposits on containers which they sell, and to pass the container along for full deposit, and possibly a share of the handling fee, to a franchised container depot. Other retailers, for business reasons,

Exhibit III-1

Illustration of the proposed flow of containers, deposits and recovery fees



may apply to become franchised or licensed container depots, in which case they would accept all containers covered under the legislation and would refund full deposits.

Consumers have four basic alternatives in returning empty containers. They may return them to franchised container depots, or to consolidation centres, in which case they will receive the full deposit. They may also donate the containers to charity drives or place them in blue boxes, the operators of which can recover the deposits from franchised depots or consolidation centres. A possible fifth alternative is to return containers to the "unofficial" shops described above, possibly for a discounted deposit.

Hotels, restaurants and institutions will return their empty containers to depots or consolidation centres, in exchange for the deposits.

The depots will pass containers on to consolidation centres in return for the deposit and a negotiated handling fee. The depots may sort refillable containers.

The consolidation centres will check all counts and will sort refillable containers if this has not been done at the retail level. Refillables are returned to the producers/distributors. Non-refillable containers may be passed to a major Container Corporation facility, either baled or loose. In return the consolidation centres would receive the relevant deposits and handling fees which Container Corporation had already received from producers/distributors.

Container Corporation will verify the number of containers returned. The major plant will prepare recyclable materials for sale to the extent that this has not been done at the consolidation centre level. This includes baling compressible materials, and breaking (and possibly beneficiating) glass. Non-recyclable materials will be landfilled until markets can be established for them, or until they are phased out.

Container Corporation need not physically handle the non-refillable containers. They can be diverted to waste processors at the consolidation centre level, if the centres are suitably equipped. However, from a fiduciary perspective, Container Corporation must ensure beverage containers are properly accounted for and that fraud is minimized. Physically handling the containers is a cost of reducing losses through inaccurate reporting. The cost implications of this handling will be assessed during Phase II.

2. Financial systems

Containers will be grouped into a number of categories, for which common recovery fees will be charged, irrespective of the beverage for which they were used. In other words aluminum beer cans and aluminum soft drink cans will be treated equally and, there will be no separate segregation of costs by brand except when individual brands utilize containers that generate different sorting requirements.

The container types will be selected to reflect the cost implications of handling, sorting and transporting the containers and the revenue implications of the sale of scrap. Relevant characteristics for determining container types will be:

- Material type, which affects unit revenues, and possibly transport costs.
- Container size, which may influence handling and transport costs, and for which different deposits may be charged.
- Colour (of glass) which affects revenues from scrap.
- Whether refillable or non-refillable, which have different handling and sorting requirements.

Identifying the number of container types will be a trade-off between the accuracy of cost differentiation, and the simplification of accounting and handling.

The proposed system envisages that costs and revenues for each container type will be segregated, and that unredeemed deposit per container type (to the extent that the recovery levels negotiated with the Ministry of Environment are achieved) be used to reduce recovery costs. Recovery fees shared by Container Corporation, consolidation centres and/or franchised container depots will be negotiated between the parties involved, depending upon the amount of work performed at each level.

B. Role of the provincial government

In order for stakeholders to consider their attitudes towards ownership and control issues, we identified the suggested role of the provincial government.

Through the Ministry of Environment, the provincial government has a responsibility of ensuring that the weight of beverage containers sent to landfill is significantly reduced. At the same time, the government needs to ensure that consumers throughout the province are given reasonable opportunity to dispose of containers, and that all beverage producers, small and large, are treated equitably. These three responsibilities translate into the following functions. The Ministry of Environment:

- Sets minimum deposit levels for each container type.
- Assigns overall responsibility of container recovery to the producer/distributor through legislation.
- Establishes policy for the acceptable disposition of container materials recovered.

- Prohibits any sale of regulated beverages by a producer/distributor without a container deposit.
- Requires a deposit accounting system.
- Negotiates recovery rates with Container Corporation (and hence the beverage industry).
- Audits Container Corporation's performance.
- Authorizes the use of unredeemed deposits. For refillables they will accrue to the producer, as compensation for the cost of replacing the container.
- Prohibits total opting-out from the system.
- Will phase out non-recyclable beverage containers over the next two years.
- Ensures financial disclosure of Container Corporation activities to producers and importer/distributors.
- Ensures that depots are located throughout the province to provide an acceptable level of service to the public.
- May appoint directors to represent the public interest.

C. Functions of Container Corporation

To comment on ownership and control issues, stakeholders needed to understand the responsibilities of Container Corporation. The following points have been developed through stakeholder discussions.

Container Corporation:

- May set deposit levels above government legislated minima to increase recovery rate, or at the request of a producer/distributor who is willing to pay for any additional sorting costs involved.
- Establishes direct contracts with a number of consolidation centres and container depots, throughout the province.
- Identifies container types based on cost/revenue characteristics, and sets recovery fees incorporating costs, material revenues and unredeemed deposits as permitted by the Ministry of Environment. We will calculate likely costs and revenues during Phase II.

- Accounts for handling fees and deposits with contracted depots and consolidatin centres.

- Sets standards for contracted depots and provides advice and promotional assistance.

- Owns or controls consolidation centres and a selected number of depots (to monitor actual cost experience).

- Carries out own material recovery at a major plant, or contracts out to existing waste brokers, if this can be done without unacceptable risks of fraud.

- Has the right to audit any member (producer/distributor) to determine compliance.

- Specifies the reporting required from members (producers/distributors) and the time lag between beverage sales and remission of deposits and recovery fees.

- Encourages the public to return containers.

- Initiates action plans to increase recovery rates to acceptable standards. Takes special action for container types not achieving set recovery targets.

The beverage producers/distributors have total life cycle responsibility for their containers. They must therefore "remove" their container from the market place. Container Corporation will act as their agent in performing a number of the tasks required to achieve this objective such as collection, transportation, sorting, benefication and disposal. The recovery fees charged by Container Corporation will be set to reflect the separate cost of each of these tasks for functions for each container type.

The question of the ability of individual beverage producers/distributors to "opt-out" of Container Corporation and independently assume the responsibility of recovering its own containers from the market place has been considered. We recommend that for overall efficiency and simplicity, all beverage producers/distributors be members of Container Corporation and therefore part of an overall self-regulation program to meet recovery guidelines negotiated with the Ministry of Environment. We also recommend that Container Corporation allow beverage producers/distributors to perform individual tasks/functions in the recovery process. This "opting-out" at the individual task level would be recognized by a corresponding reduction in recovery fees charged by Container Corporation. This would allow producers/distributors to maximize their own efficiencies by for example, collecting and/or transporting empty container. It would also allow, for example, green glass users to make their own disposal arrangements. In these cases, Container Corporation retains the responsibility of

verifying achievement of the targets negotiated with government. Container Corporation may therefore need to charge members for this cost of verification.

Finally, Container Corporation will establish industry-wide initiatives to promote the recovery of beverage containers and will take specific action to improve the recovery of container types not achieving recovery levels negotiated by the industry with the Ministry of Environment.

D. Some stakeholders had concerns about the system outlined

The physical system as outlined involves a considerable change from the present collection systems for beer and soft drinks. At present, consumers can return their empty containers to the retailer for refund. The proposed system envisages consumers returning all containers to a single depot (unless retailers choose to offer full or partial refunds for the containers they sell).

The following specific concerns were raised:

- The Brewers feel that sales may be affected if consumers do not receive their cash refund at the point of sale. Grocery retailers do not agree.

- If refillables are returned to retailers, bottlers can pick up when delivering full product, thereby enjoying transport economies. However, grocery retailers consider container returns to be expensive, inconvenient, and a health hazard.

- Other beverage producers/distributors are concerned that milk and juice producers have been advised that they will be exempted from deposit legislation.

- Several privately-owned container consolidation centres exist, particularly in the Lower Mainland. They may be put out of business if Container Corporation owned some the consolidation facilities. Container Corporation will be responsible for establishing operating criteria for these depots. Overall efficiency of a larger systems also needs to be considered. We also expect, however, that Container Corporation will license existing depots that can meet these operating criteria, and can expand to meet the needs of a larger system.

- Brewers are concerned that combining their container stream with those of other beverages will reduce efficiency and increase costs.

- Brewers fear that the proposed system will be slower than their current recovery system and that more bottles will be required to serve the same volume of sales.

- Because brewers control PBD, they can pace bottle returns to suit their just-in-time inventory requirements. They fear they will lose this flexibility with Container Corporation.

- Franchising should not inflate the value (and the costs) of a depot.

- Brewers would be reluctant to pay recovery fees in advance of recovery because of the effect this would have on their working capital requirements.

- Monitoring PBD requires little management time of brewers. They are concerned that representing their interests in a corporation owned by a large number of beverage producers will significantly increase demands on management.

- Brewers object to not being able to keep unredeemed deposits on beer containers unless they are allocated 100% to reducing recovery costs of beer containers.

- Distillers and wineries were concerned about the impact of recovery fees on the price of their product. Although they accept the cost of recovery, they do not wish such costs to be subject to the normal mark-ups of the B.C. Liquor Distribution Branch.

- Distillers and wineries want consistent deposit legislation between the various jurisdictions in Canada.

- Wineries fear that existing arrangements between domestic beverage producers and green glass manufacturers for the disposal of green glass would be jeopardized.

The concerns of the brewers are so strong that they have reserved their comments on the ownership structure (and on their willingness to participate voluntarily) until they see the cost implications of the proposed system for them. We will carry out the required financial analysis during Phase II, after which the brewers will re-address the issues of ownership and participation.

The above concerns raise issues that must be addressed. The Liquor Distribution Branch wishes to stop accepting beer containers. If this happens, brewers will be forced to find or develop another system for container recovery.

The pick-up of refillables from retailers simultaneously with the delivery of full product, has different implications for soft drinks and for beer. The sort required to separate beer bottles is far more complex than the sort required to separate soft drink bottles. Soft drink retailers can and do carry out this sort at present. Retail liquor stores do not sort beer bottles and do not have the facilities to do so. Unsorted beer bottles would have to be collected by beer delivery trucks, and the sort carried out by Pacific Brewers Distributors. This would result in a duplicate system which may or may not be cost effective.

IV

We Outlined Possible Capital Investment Requirements

Stakeholders needed to understand the possible financial implications of ownership before they could comment on the alternatives.

A. Capital costs are unlikely to exceed $12 million

A more accurate assessment of capital costs will be produced in Phase II. However, we prepared some very rough calculations to arrive at an outside estimate of capitalization required. Exhibit IV-1 contains the figures we presented to stakeholders.

Exhibit IV-1
Estimate of maximum capitalization required

	$ million
Materials recovery facility	
Land and buildings (could be leased)	$4.0
Equipment	1.0
Working capital	1.0
	6.0
Consolidation centres (rented premises)	
Equipment (5 facilities)	0.8
Uncharged Deposits	
The risk exists that deposits will have to be refunded on containers in consumers' hands when the policy is introduced. In many cases it will not be possible to distinguish containers sold without a deposit. Soft drink, water, wine and spirit containers number approximately 333 million per year with deposits of $40 million. With a six-week float 38 million containers could be presented for refund. Deposits would be:	4.6
Maximum Capital Required	$11.4

The sum of $12 million can be considered an outside figure for several reasons. Firstly, land and buildings for the materials recovery facility could be leased instead of purchased. Secondly, a major recovery facility may not be necessary if Container Corporation owned all consolidation centres. Alternatively, if adequate safeguards can be implemented so that reports from privately-owned consolidation centres can be verified without Container Corporation handling the non-refillable containers, a materials recovery facility may not be required. Thirdly, the potential liability for uncharged deposits may be overstated. The Liquor Distribution Branch feels that it can identify containers on which a deposit has been paid, by attaching a sticker. Soft drink producers feel that they can identify cans on which a deposit has been paid by marking the tops.

The implication of Exhibit IV-1 is not that the owners of Container Corporation must invest $12 million as share capital. We calculated capital costs to compare them with funds that might be available from other sources.

B. The "float" and first year unredeemed deposits could finance capital costs

To the extent that deposits and recovery fees are received by Container Corporation before they must be disbursed for the containers which they cover, funds will accumulate in Container Corporation's bank accounts. The value of the float will depend on:

- How soon after sales producers and distributors must remit deposits and handling fees.
- When Container Corporation pays out deposits and handling fees for containers recovered, i.e., when containers are received by the franchised depots, or when they are received by Container Corporation from the consolidation centres.
- The time taken for a container to pass through the system from the producer or distributor, through retailers, consumers, depots and centres.

As well, unredeemed deposits will accumulate in Container Corporation's bank accounts. They represent a potential liability which, after a period of time may be treated as operating revenues to reduce operating costs. Cash will accumulate until this decision is made.

Exhibit IV-2 illustrates a simple calculation of the potential size of the float and unredeemed deposits.

The number of containers (excluding fruit and vegetable juices and milk) are taken from the Shaffer report. Deposits have not yet been set by the Ministry of Environment beyond the minimum of 10 cents established by Cabinet, but those illustrated represent the levels pertaining to current refunds for many containers. Recovery fees have not yet

been calculated for Container Corporation but they are similar to costs encountered in other systems. The recovery rates are high, and may not be achieved for some time. This means that on one hand, the float and unredeemed deposits would be higher than illustrated. On the other hand, lower recovery revenue would generate losses and require more working capital than assumed in Exhibit IV-1.

Exhibit IV-2
Illustration of potential finance from the "float" and from unredeemed deposits

	Under 1 Litre	1 Litre And Above	Total
Assumptions:			
Annual containers	720 million	46 million	
Deposit	10¢	25¢	
Recovery fee (average)	3¢	4¢	
Recovery rate (average)	90%	95%	
Annual cash flow $ million			
Deposits	72	11	83
Recovery fees	22	2	24
Total	94	13	107
Six week float $ million	10.8	1.5	12.3
Unredeemed deposits $ million	7.2	0.6	7.8
			20.1

Note: Deposits and recovery fees are hypothetical, and have not yet been set. However, we believe they are representative and can be used for illustration.

Based on the assumptions illustrated above, the annual value of deposits flowing through the system would be $83 million. The annual value of recovery fees would be $24 million. The six-week float is that which the brewery industry estimates it experiences for its containers. Six weeks represents 11.5% of a year and so the value of this float could exceed $12 million. (The exact size of float would depend upon the timing of collection of funds from producers and distributors, and the disbursement of funds to depots).

Based on our high recovery rates, and therefore low incidence of unreturned containers, unredeemed deposits could amount to $7.8 million per year. A small amount for unredeemed deposits on refillables would be returned to producers. However, the value

would not exceed $500,000 because of the high return rate for refillables. The remaining money would be available as working capital until it can be taken into revenues to reduce operating costs.

Overall, by the end of the first full year of operation finance from the float and unredeemed deposits could approach $20 million. This far exceeds likely capital requirements, and owners are unlikely to have to contribute equity capital. Until the float accumulated, initial finance will be obtained from bank loans.

In Phase II we will examine in more detail the financial implications of:

- A gradual growth in recovery rates.
- Different time lags between the sale of beverages and collection of deposits and recovery fees from producers and distributors. The timing of these collections will have a large influence on the working capital requirements of participants in the system.
- The timing of payments for containers recovered to franchised depots and private consolidation centres. The timing of these payments will have a great influence on the working capital requirements of the depots.

V

We Outlined Ownership And Control Options To Stakeholders

Ownership, control and the role of profit are three independent concepts. The owners/investors in a business may not have control proportionate to their investment. Voting power could be assigned differently. Similarly, the profits may be assigned to the owners/investors, but may also be distributed to those involved in alternative ways.

A. Ownership alternatives

We identified six alternatives.

1. The first alternative is a corporation all the shares of which are owned equally by the five major stakeholders (Labatts, Molsons, Coca Cola, Pepsi and Liquor Distribution Branch). In this model the shareholders would be required to contribute any capital financing that could not be obtained through other sources.

2. A second alternative is a corporation in which all producers and distributors own shares in proportion to the use of service, measured by the recovery fees paid. To implement this system would require the determination of how shares are initially to be allocated, before any comprehensive system is implemented and fees have been paid. A similar solution would be required for new entrants and for the redemption of shares held by shareholders leaving the business. In this system all shareholders would have to contribute any necessary equity in proportion to their shareholdings.

3. The third alternative is a combination of the first two. Equity would be contributed equally by the five major stakeholders, who would hold non-voting but participating (in profits) shares representing this interest. In addition, all producers and distributors would be issued with non-participating voting shares in proportion to their use of the system measured by fees paid. The same problems regarding initial share allocation, new entrants and redemption of shares, as were identified in the second alternative, would need to be solved.

4. The fourth alternative is a cooperative consisting of all producers and distributors. Ownership would be proportionate to fees paid to the corporation over a number of years. Under this system the interest of members is automatically adjusted as fees are paid each year. New entrants would automatically be accommodated. Their interest would grow as their fees accumulate.

   In this alternative, as with others where members ownership interests are proportionate to use of the system, the problem of initial allocations must be solved.

5. A fifth alternative is a private or public corporation owned by non-stakeholders. This would only be feasible if Container Corporation were operated with a profit motive in mind. Such an approach would tend to maximize efficiency but could cost producers and distributors more than other systems in which they participate. The size of profit could be limited by treating the corporation as a public utility, thereby relating profits to a percentage of capital invested. The Ministry of Environment did not favour this idea as they believed the provincial government should have minimum involvement in the system.

6. The sixth alternative envisages a partnership between a general partner e.g., a firm already in the recycling and waste disposal business, and limited partners consisting of producers and distributors. This really is a series of alternatives because the number and involvement of the limited partners could vary according to options 1 and 2 above.

B. Control alternatives

Control implies the ability to elect directors for the corporation or cooperative. We outlined five concepts for stakeholders:

- Directors are elected by shareholders/members in proportion to their equity.
- Directors are elected by shareholders/members each of whom have an equal vote.
- Directors are elected by members with votes proportionate to the fees they have paid over a number of years.
- Directors are appointed by the Minister of Environment.
- A combination of the above.

C. The role of profits

We outlined four profit models for stakeholders:

- No profits are earned, the goal of Container Corporation being to break even on the costs and revenues of each container type.
- Profits are earned at a level set by directors, and are distributed to shareholders in proportion to their equity.
- Profits are earned at levels set by directors. The profits by container type are treated as a rebate of handling fees, or are carried forward as a reduction of future operating costs.
- Profits are earned at levels set by directors and are treated as patronage dividends, by container type. A specified percentage of the dividend would be retained by the corporation for a specified number of years, to provide working capital and to identify members' relative equity.

VI

We Reviewed Deposit Systems In Other Jurisdictions

We reviewed practices in five jurisdictions described in the Shaffer report, obtained up-to-date information on latest developments, and contacted several U.S. jurisdictions directly.

Appendix B contains summaries of our findings for the following provinces and states:

Alberta
California
Connecticut
Florida
Iowa
Maine
Manitoba
Massachusetts
New York
Ontario
Oregon
Saskatchewan
Vermont.

That no consistent system exists, is apparent. Systems vary from the highly-regulated California and Alberta models to presently informal systems such as Florida's, where bottlers are required to achieve specified recycling rates or face legislation. We reviewed eleven different characteristics of systems.

1. Beverages

All jurisdictions include at least beer and soft drinks in their container recovery systems. Florida appears to exclude nothing, requiring a recycling rate of 50% for all beverage containers. Milk and juice are usually excluded. Maine requires deposits on dairy and "cider" containers over a gallon in volume.

2. Container materials

Glass, aluminum and plastic are invariably included. Aseptic containers such as tetrapaks are usually excluded, although some jurisdictions have banned this material altogether.

3. Return systems

Retailers normally form part of the return network, being required to accept containers for beverages they sell. As well, most jurisdictions have redemption centres that accept all beverage containers. Occasionally, the return of refillables is limited to the retailer.

4. Legislated deposits

Different jurisdictions legislate a variety of deposits. Sometimes no deposits are legislated. The lowest legislated deposit appears to be 2¢ per refillable container in Oregon. The highest legislated deposits are found in Alberta.

5. Actual deposits

Frequently, actual deposits are set by producers and distributors at higher levels than the legislated deposits. The main purpose appears to be to increase the return rate above that that could be expected if deposits were held at the legislated minimum. Another purpose is to cover the cost of replacing refillable containers not returned. Actual deposits range from 5¢ to as high as 60¢ for some containers in Ontario.

6. Depot handling fees

In many cases depot handling fees are not available since they are a matter of negotiation between producers and distributors on the one hand, and the redemption centres on the other. Handling fees are also affected by who receives revenues from recyclable material sales. In Connecticut the state legislates handling fees at 1.5¢ for beer and malt beverages, and 2¢ for soft drinks. New York also has a 1.5¢ handling fee. In Alberta legislated fees rise to 4.55¢ for containers above 500 milliliters. Saskatchewan depots receive 5¢ for handling plastic containers.

Depot handling fees, of course, represent only part of the costs of operating the system. Transportation, accounting and in-house handling of refillables all add to total system costs.

7. Return rates

Return rates vary widely. In some jurisdictions government does not monitor return rates. In others government and industry statistics vary. As well, the rates can be significantly different for different materials. Alberta's rates are relatively high,

with a recovery rate of 97% for beer bottles and 65% to 70% for aluminium beer and soft drink cans. However, Alberta achieves only a 28% return rate for bi-metal beverage cans (usually juice). Florida, which has recycling rate targets of 50% by October 1992, is presently experiencing 40% for aluminium and insignificant rates for PET. Massachusetts reports an average 85% rate for glass, aluminium and PET containers covered by its legislation. Industry records are somewhat lower than this. On average, Canadian jurisdictions appear to be more successful in removing beverage containers from the waste stream than do the American states.

8. Unredeemed deposits

Unredeemed deposits generally accrue to producers or distributors. Exceptions are Massachusetts where producers and distributors are challenging the right of the state to "confiscate" unredeemed deposits. In Saskatchewan the provincial government retains unredeemed deposits for non-refillable containers. Other jurisdictions are considering taking unredeemed deposits, to remove the incentive for producers and distributors to keep return rates low.

9. Scrap revenue

Scrap revenues accrue either to the producers and distributors, or to privately-owned redemption centres who use the revenues to reduce their operating costs.

10. Ownership of systems

In every jurisdiction except California (where the State runs the system), producers and distributors are directly responsible for reacting to legislation. Sometimes the legislation requires retailers to participate in the system at their own cost. Governments keep out of the operations of the systems.

11. Government regulations

Government regulations are usually restricted to:

Setting minimum deposits.
Legislating beverages and container types covered.
Placing the responsibility for performance on producers and/or distributors.

In most, but not all cases, government requires performance reports from bottlers or distributors. Governments may also "certify" or appoint redemption depots. Occasionally, they legislate depot handling fees.

VII

The Recommended Ownership, Control And Profit Structure

A. Stakeholders were consistent in their attitudes

The willingness of the breweries voluntarily to participate in the new system will depend upon the cost implications of the new system vis a vis their present collection system.

Stakeholders agreed with the following simple mission statement for Container Corporation:

> "The mission of Container Corporation is to maximize the efficient and cost effective recovery of empty beverage containers."

All stakeholders agreed that Container Corporation should be owned and operated by and for the benefit of beverage producers or distributors. They prefer that any beverage collection system be operated to minimize costs rather than to earn profits for the benefit of its members. They prefer to earn the profit from the sale of product rather than from the recovery of containers. The involvement of any outsider in the system would establish a conflict of interest. The outsider would require a profit to justify his involvement. Producers and distributors seek to eliminate profits on collection, in order to minimize their product costs.

Stakeholders in general did not wish the five major stakeholders to take sole ownership of the corporation. Producers and distributors to whom we spoke believed that all producers and distributors should have a stake in the ownership and control of the corporation.

In the interests of efficiency and cost minimization, stakeholders agreed that container types should be treated individually according to their cost characteristics. This would encourage the use of those containers with the lowest life cycle costs (including the costs of manufacture, transport, recovery, and recycling/refilling).

B. The proposed structure is simple

1. Ownership

By legislation, the members of Container Corporation shall be all regulated beverage producers and prime agents or distributors of regulated beverages imported from outside the province. We estimate that this represents over 300 organizations.

Members' interest will partly be proportionate to the fees they pay, and partially in proportion to their number.

2. Control

The Board of Container Corporation should consist of the following:

- Five directors elected on the basis of a weighted vote by each member. Each member will be assigned votes based on the member's relative proportion of the recovery fees paid by the member to the corporation over the last three complete fiscal years. Interim arrangements possibly based on audited sales, will be needed in the early years.

- Five directors elected on the basis of one member one vote.

- Two directors appointed by the Minister of Environment to represent the public interest.

- The Chief Executive Officer of Container Corporation will be appointed a director of the corporation.

The Board will elect its own Chairman. Where decisions relating to a single container type must be made, members may vote on that matter with voting power proportionate to their fees for that specific container type paid to the corporation over the last three complete fiscal years.

Appeals by consumers and members will initially be arbitrated by a panel of three directors, one selected from each of the three blocs. If the decision is unacceptable to the complainant, he may at his cost refer the matter to commercial arbitration.

3. Profits or losses

Container Corporation will act to achieve appropriate recovery rates for beverage containers in British Columbia. In so doing, recovery fees will be established to achieve the following objectives:

- The lowest possible handling fees charged to producers and distributors.

- An adequate level of working capital financing for the corporation.
- The avoidance of losses on any of its operations.

Profits or losses will be allocated to each member pro rata for each container type based on the relative recovery fees paid by each member for each container type.

4. Universality versus "Opting - Out"

Beverage producers/distributors will universally have the responsibility of recovering their containers from the market place. Container Corporation will act as their agent to achieve this objective.

We recommend that for overall efficiency and simplicity, all beverage producers/distributors be members of Container Corporation and therefore part of an overall self-regulation program to meet recovery guidelines negotiated with the Ministry of Environment. We also recommend that Container Corporation allow beverage producers/distributors to perform individual tasks/functions in the recovery process. This "opting-out" at the individual task level would be recognized by a corresponding reduction in recovery fees charged by Container Corporation. This would allow producers/distributors to maximize their own efficiencies by for example, collecting and/or transporting empty containers It would also allow, for example, green glass users to make their own disposal arrangements. In these cases, Container Corporation retains the responsibility of verifying achievement of the targets negotiated with government. Container Corporation may therefore need to charge members for this cost of verification.

Appendix A

List Of Persons Interviewed

Appendix A

List Of Persons Interviewed

Organization	Individual(s) Interviewed
Association of Canadian Distillers	Doug Rubbra Don Henderson
B.C. Soft Drink Association	John Nixon
B.C. Liquor Distribution Branch	Ian Munro Connie Nordin
B.C. Wineries Association	Rick Thorpe
Brewers Association of B.C.	Gerry Kristianson
Canadian Council of Grocery Distributors	Bryan Walton
Coca Cola Bottling	Doug Revell
Dairyland	Dan Wong
Gray Beverage	Peter Kains
Grocery Products Manufacturers of Canada	Wendy Neale
Import Vintners and Spirits Association	Mark Jameson
Koala Springs	Lorenzo Barazzuol
Labatt Breweries	John Lumsden Charlie Ruddick Kent Brownlow
Ministry of Environment	Ron Driedger Dave Douglas
Molson Breweries	John Winter Tom Koltai Leroy Peterson
Okanagan Springs Brewery	Buko von Kresigk
Pacific Brewers Distributors	John Johnston Paul Bethel
SunRype	Lawrence Bates
Tetrapak	John Carley
Zim's Trading	Pete Zimmerman

Appendix B

Container Recovery Systems In Other Jurisdictions

Jurisdiction	Alberta		
Beverages	Alberta beer	Soft drinks	Wine, spirits, juice, water, import beer
Container Material	Refillable glass Aluminum cans	Refillable glass Plastic Aluminum cans	Glass Plastic Aluminum cans Bi-metal cans
Return System	ABA warehouse & depots (U.C. depots discount deposits)	Universal Container Depots	
Legislated Deposits	Bottles 10¢ Can 5¢	Up to 1 litre 5¢ Above 1 litre 20¢ <1 litre refillable glass 20¢ Import beer 10¢	
Actual Deposits	As above	As above	
Depot Handling Fees	Bottles 1.67¢ Cans 1.33¢	Up to 500 m. 2.75¢ Above 500 ml 4.55¢ Import beer 3.25¢	
Return Rates	Bottles 97% Cans 67%	Refillable glass 66% Plastic (average) 80% Aluminium cans 65%	Non-refillable glass 73% Import beer bottles 84% Aluminum cans 65% Bi-metal cans 28%
Unredeemed Deposits	Producer/distributor		
Scrap Revenue	Producer/distributor (through reduced Contain-a-way charges)		
Ownership of System	Warehouse—ABA Depots—Private	Depots—Private Contain-a-way—Private	
Government Regulations	Sets minimum deposits Approves containers	Sets minimum deposits Sets depot handling fees Approves containers Licenses and sets standards for Universal Container Depots	

Jurisdiction	California
Beverages	Beer and malt bevs. Wine and distilled coolers Carbonated mineral and soda waters and soft drinks
Container Material	Glass PET Aluminum Steel
Return System	Distributors pay a Redemption Payment (RP) to government, this is passed along to consumer in purchase price Retailers or depots (contracted by retailers) collect returns and pay consumers
Legislated Deposits	< 24 oz: Redemption Payment paid to government 2¢; Redemption Payment paid to consumer 2.5¢ ≥ 24 oz: Redemption Payment paid to government 4¢; Redemption Payment paid to consumer 5¢
Actual Deposits	Same
Depot Handling Fees	A Processing Fee is paid by the bottlers to government—rate is reviewed annually per commodity and used as a top up for collectors to ensure their business is economically viable—i.e., handling costs + "normal" rate of return + processing fee (if nec.) = market driven scrap value
Return Rates	1990: Steel 3%; Aluminum 76%; Glass 60%; PET 31% } Overall = 70%
Unredeemed Deposits	= excess R.PI—used to make up difference between amount collected vs paid out, government administration costs
Scrap Revenue	Goes to collectors = retailers or contracted depots
Ownership of System	Government controlled
Government Regulations	Lengthy!

Jurisdiction	Connecticut
Beverages	Beer and malt beverages Mineral waters Sodas and soft drinks
Container Material	Glass Plastic Aluminum
Return System	Retailers Redemption centres—private sector
Legislated Deposits	Min. 5¢
Actual Deposits	5¢, except 10-20¢ for refillables (pop) (very few refillables left now however)
Depot Handling Fees	Softdrink 2¢ Beer and malt bevs. 1.5¢
Return Rates	Do not collect data
Unredeemed Deposits	Distributors
Scrap Revenue	Distributors
Ownership of System	Self-administered, no reporting requirements Distributors initiate the system
Government Regulations	Only get involved if problems arise - retailers must accept what he sells - handling fees @ 2¢ soft drink and 1.5¢ beer - minor details on reverse vending

Jurisdiction	Florida
Beverages	Each must be recycled at rate of 50% by October 1992 or advance disposal fee will be initiated
Container Material	All
Return System	Presently curbside recycling only. Retailers must accept if 50% recycling rates are not achieved by October 1992
Legislated Deposits	None as such. State will legislate advance disposal fees to be returned to consumers —1¢ if 50% recycling rate not achieved by October 1992. —2¢, if 50% recycling rate not achieved by October 1994.
Actual Deposits	N/App.
Depot Handling Fees	None. Retailers retain scrap value.
Recycling Rates	Aluminium ≃ 40% Steel ≃ 37% PET — negligible Glass — don't know
Unredeemed Deposits	State ?
Scrap Revenue	To retailers or curbside program
Ownership of System	N/App.
Government Regulations	Bottle Bill may be coming in 1992-94 (unless current system can beat current targets)

Jurisdiction	Iowa
Beverages	Wine Alcohol-hard liquor Soft drinks and mineral water Beer
Container Material	Glass Plastic Steel Aluminum
Return System	Retailers collect and return deposit Redemption centres (private sector) can contract to "cover" for a retailer, i.e., small towns (see regs.)
Legislated Deposits	Minimum 5¢
Actual Deposits	Glass refillable pop (16 oz)—10¢ All others—5¢
Depot Handling Fees	1¢
Return Rates	Beer and pop
Unredeemed Deposits	Distributor for wine and alcohol Producers for beer and soft drink
Scrap Revenue	Distributors
Ownership of System	Distributors
Government Regulations	- Retailers have to take back what they sell or and associated redemption centre handles it on their behalf—occurs primarily in small towns - Minimum 5¢ deposit

Jurisdiction	Maine
Beverages	Everything except dairy and cider in containers smaller than 1 gallon
Container Material	All aseptic banned, except for juice (no deposit)
Return System	To retailers Collected by distributors/producers
Legislated Deposits	Alcohol (spirits) 15¢ All others 5¢
Actual Deposits	Alcohol (spirits) 15¢ All others 5¢
Depot Handling Fees	2¢
Return Rates	N/Av.
Unredeemed Deposits	Retailers?
Scrap Revenue	Retailer?
Ownership of System	Producers/distributors
Government Regulations	- set minimum deposits - all materials covered - banned aseptic packaging (re-affirmed), except for juice

Jurisdiction	Manitoba	
Beverages	Beer	Soft drinks
Container Material	Glass Aluminum	Glass only has deposits PET—buy back Aluminum—buy back
Return System	Retailer collects deposit and hotels collect returns, pay back deposits	Retailer collects deposits & pays out on return
Legislated Deposits		
Actual Deposits	10¢ on beer cans and bottles	Glass—25¢ PET & aluminum—buy back at market rate
Depot Handling Fees	N/av.	N/av.
Return Rates	Bottles 97% Cans 53%	Plastic 25% Cans 43%
Unredeemed Deposits	Bottlers/distributors	"Industry" (glass only)
Scrap Revenue	ABD (Associated brewers dist'n)	MSDA (Manitoba Softdrink Association) set up MSDR (Manitoba Softdrink Recycling)
Ownership of System	Bottlers	MSDR
Government Regulations	Nothing yet, but will come as systems evolve.	

Jurisdiction	Massachusetts
Beverages	Carbonated liquids Juice (excluding 100% juice)
Container Material	Glass Aluminum PET
Return System	Retailers, for containers sold in last 16 days Collection companies and redemption centres, contracted by bottlers and distributors to collect empty containers, must accept all containers covered by the legislation. Distributors must collect from retailers but not from redemption centres
Legislated Deposits	5¢
Actual Deposits	5¢
Depot Handling Fees	2¢ (increase to 3¢ being sought by depots) Some distributors contract the collection, washing or crushing for 2.3¢ per bottle and 1.8¢ per can
Return Rates	State records—85% Industry records —72% refillable —78% non-refillable
Unredeemed Deposits	State government (being challenged in courts by producers and distributors) State keeps unredeemed deposits for out-of-state beverages
Scrap Revenue	Producer/distributor or collection companies
Ownership of System	Responsibility is that of producer/distributor
Government Regulations	Prohibits imports of out-of-state containers for refund Prohibits export of Massachusetts containers for refund in other states Collects deposits from out-of-state distributors Maintains records

Jurisdiction	New York		
Beverages	Beer	Soft drinks	Mineral water Other malt beverages Wine coolers (recent)
Container Material	Glass Aluminum PET (not tetrapaks)		
Return System	Retailer that sells the products Redemption centres (private enterprises)		
Legislated Deposits	5¢		
Actual Deposits	Refillable—up to 25¢ Ranges from 5¢-25¢ (95% @ 5¢)		
Depot Handling Fees	1.5¢		
Return Rates	78.7%	65.6%	N/av.
Unredeemed Deposits	Distributors (not breweries)	Bottlers	Distributors
Scrap Revenue	Distributors	Bottlers	Distributors
Ownership of System	Distributors	Bottlers	Distributors
Government Regulations	Sets deposit levels Requires retailers to accept containers they sell		

Jurisdiction	Ontario	
Beverages	Beer	Soft drinks
Container Material	Refillable glass Aluminum cans	Refillable glass
Return System	Returned to Brewers Retail & then to breweries	Returned to retailer Collected by producer
Legislated Deposits	No legislation	Up to 350 ml 15¢ 351 ml to 1 l 30¢ Over 1 l 50-60¢
Actual Deposits	Bottles 10¢ Cans 5¢	Up to 350 ml 20¢ 351 ml to 1 l 40¢ Over 1 l 50-60¢
Depot Handling Fees	N/a (LCBO pays private bottle dealers in rural areas—$2 million per year)	None
Return Rates	Bottles >98% Cans >75%	92%-96%
Unredeemed Deposits	Producer/distributor	
Scrap Revenue	Producer/distributor	
Ownership of System	Producer/distributor	
Government Regulations	Regulates soft drink industry (no legislation for beer) Requires 40% of soft drinks each year to be sold in refillable containers (not less than 30% in every month)	

Jurisdiction	Oregon
Beverages	Beer Water Softdrink
Container Material	Glass Aluminum Steel Plastic
Return System	Returned to retailers or to redemption centres Collected by producer/distributor
Legislated Deposits	Non-refillable 5¢ (applied by distributor) Refillable by > producer 2¢ (applied by producer)
Actual Deposits	As above
Depot Handling Fees	None
Return Rates	93% average
Unredeemed Deposits	Producer/distributor
Scrap Revenue	Producer/distributor (redemption centres keep their scrap revenues)
Ownership of System	Producer/distributor (Redemption centres usually run by community groups or non-profit organizations)
Government Regulations	Regulates beverages covered Sets minimum deposits

Jurisdiction	Saskatchewan		
Beverages	Beer	Softdrink	Beer Softdrink
Container Material	Refillable glass	Refillable glass	Aluminum cans Plastic Non-refillable glass
Return System	Return to retailers and off-sales pubs Collected by SBA	Returns to retailers Collected by bottler	SARCAN depots
Legislated Deposits	Bottle 10¢	Up to 750 ml 5¢ Above 750 ml 10¢	Less than 1 litre 5¢ One litre & above 10¢
Actual Deposits	Bottle 10¢ (9¢ refunded by off-sales retailers)	Up to 750 ml 15¢ Above 750 ml 30¢	As above
Depot Handling Fees	Off-sales pubs keep 1¢ of the deposit	None	Aluminum cans 2¢ Non-refillable glass 3.5¢ Plastic 5¢
Return Rates	Bottles 90%	Bottles 80%	Aluminum cans 74% Plastic, below 1 litre 55% Plastic, 1 litre & over n/a Refillable glass n/a
Unredeemed Deposits	Breweries	Bottlers	Province
Scrap Revenue	Breweries	Bottlers	SARCAN
Ownership of System	Breweries	Bottlers	Saskatchewan Association of Rehabilitation Centres
Government Regulations	Sets minimum deposit Approves containers	Sets minimum deposit Approves containers	Sets minimum deposit Sets deposit handling fees Approves containers

Jurisdiction	Vermont
Beverages	Carbonated drinks Wine coolers Beer Hard liquor Mineral waters
Container Material	Glass Plastic Aluminum
Return System	Retailer or redemption centre (private sector)—can be certified
Legislated Deposits	Minimum 5¢ Liquor at 15¢ (hard liquor)
Actual Deposits	90% + @ 5¢
Depot Handling Fees	3¢ minimum (self-regulated, beyond legislated 3¢ min.)
Return Rates	N/av
Unredeemed Deposits	Stay with distributors
Scrap Revenue	Distributors
Ownership of System	Self-regulated by distributors, bottlers and retailers
Government Regulations	Sets minimum deposit Requires users of refillable bottles to certify they can be used at least 5 times